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Brookhaven National Laboratory National Synchrotron Light Source		Number: LS-ESH-0012	Revision:
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Subject: LINAC LOTO			
Prepared/ M. Buckley Approved By:	Approved By: A. Ackerman	Revision &	Periodic Review Log

\*Approval Signatures on file with master copy.

<u>Purpose</u>: The LINAC Low Energy Beam Transport (LEBT) valve and the Low-Level RF S-Band Amplifier need to be safeguarded when performing radiological interlock tests for the VUV& X-Ray ring and the Linac/Booster.

Scope: This procedure is applicable for radiation protection purposes for VUV & X-Ray ring, and LINAC/Booster interlock testing. Utilizing this procedure will permit the LINAC modulators to remain ON and allow LINAC/Booster area to remain secured. Locking out the LINAC lockout switch will not permit these above needed functions for testing. Refer to procedure LS-ESH-0011, "Radiation Safety LOTO" for further details. The NSLS Safety Officer, Safety Engineer, Interlock Engineer, Quality Representative are the only personnel authorized to carryout this procedure.

## **Procedure:**

- 1. Obtain 2 padlocks, 1 lock-tree, 2 Hold tags, and 2 cable-ties.
- 2. Inform the control room operator that the LEBT Valve and Low-level RF S-Band Amplifier will be Locked/Tagged.
- 3. Request the Operator to turn on the LINAC modulators and gun pulse (if not already on). Verify signal is obtained on BT3.
- 4. Close the LEBT valve by switching the disconnect switch to the OFF position. Verify that the signal on BT3 goes away.
- 5. Open the LEBT valve. Verify that the signal is obtained on BT3.
- 6. Turn OFF the Low-Level RF amplifier by flipping the switch to the OFF position. Verify that the signal at BT3 goes away.
- 7. Place a Lock-Tree on the lockout bracket for the Low-level RF amplifier with the switch in the OFF position. Place Lock/Tag on Lock-tree.
- 8. Close the LEBT valve and Lock/Tag the disconnect switch in the OFF position.
- 9. Request the Operator to turn off the Gun pulse and inform him/her that the LEBT valve and low-level RF amplifier is Locked/tagged.

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